

Missouri Assessment Program
Spring 2001

Science
Released Items
Scoring Guide
Grade 10

Missouri Science Scoring Guide
2001 Operational Test
Grade 10

Session: 1
Item: 8
Page: 6
Standard: IV.C1.p49 (Std 2)
Goals: 1.6, 1.10

Key Elements:

“C”

Potential energy is greatest at the highest point above the ground.

Score Points:

2 points two key elements
1 point one key element
0 points other

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Session: 1
Item: 13
Page: 10
Standard: V (No specific classification) (Std 6)
Goals: 1.6, 1.8, 1.10, 2.1

Key Elements:

diagram showing Earth and the moon which shows or is accompanied by explanation that when a point on Earth is at a 90-degree angle to the moon a low tide occurs

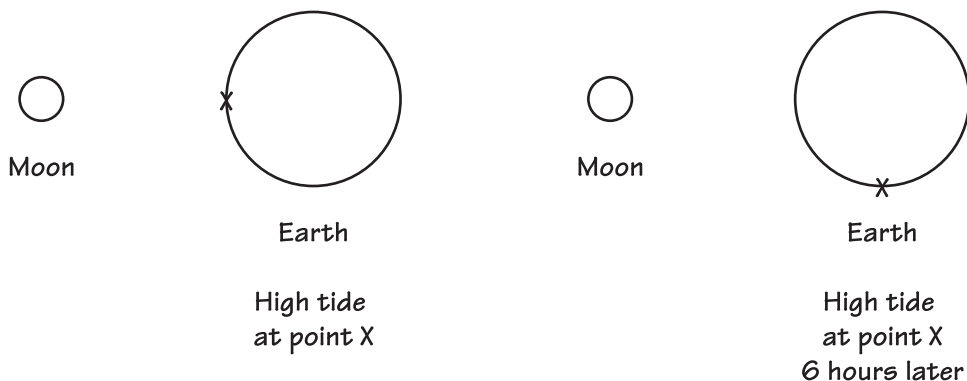
diagram showing Earth and the moon which shows or is accompanied by explanation that when a point on Earth is in line with the moon a high tide occurs

It takes approximately 6 hours for Earth to rotate between the two positions.

Score Points:

3 points three key elements
2 points two key elements
1 point one key element
0 points other

Additional information for handscorers:



Tidal bulges remain relatively fixed with respect to the moon while Earth spins daily beneath them.

Missouri Science Scoring Guide
2001 Operational Test
Grade 10

Session: 2
Item: 5
Page: 5
Standard: I.A3. p17 (Std 7)
Goals: 1.3, 1.7, 2.1

Key Elements:

1.

Problem:	There is a difference in how the paints were applied (one sprayed, one brushed).
Solution:	Apply paint with same method.
2.

Problem:	Applied to different sides of house—different exposure will cause differences in weathering.
Solution:	Apply to same side of house.
3.

Problem:	Applied in different months—weather may be different.
Solution:	Apply paints at the same time.
4.

Problem:	Experiment is too short to get a range of weather conditions.
Solution:	Make experiment longer to get a range of weather.
5.

Problem:	Applied to different house surface—house is no longer “new” when second paint applied.
Solution:	Start the test on the same “new” surface.
6.

Problem:	The two paints were compared using photographs and descriptions—this may not accurately capture the true appearance of the paints.
Solution:	Take actual samples of the paints for comparison.
7.

Problem:	The paints were compared by people who didn’t conduct the test.
Solution:	Have the same people conduct the entire test.
8.

Problem:	Paints were compared by personnel of parent company.
Solution:	Have independent company conduct comparison.
9.

Any problem with the procedure which clearly makes it hard to draw a logical conclusion from the results, e.g., Control: compared to an established paint.

Score Points:

4 points	four key elements
3 points	three key elements
2 points	two key elements
1 point	one key element
0 points	other

Session: 3
Item: 29
Page: 16
Standard: II.A1.p25 (Std 8)
Goals: 2.1, 3.1, 3.8

Key Elements:

Solution 1

Advantages

- Drivers still have control of the car.
- less expensive
- simpler technology so can incorporate it sooner
- works on existing roads

Disadvantages

- only warns, cannot do anything to stop the car
- knows where the road is but does not tell you where other cars are
- If some roads have been updated and others have not, drivers may ignore line out of habit waiting to hear the warning sign.
- computer-related so can fail
- more expensive than a regular car

Solution 2

Advantages

- more accurate monitoring
- recognizes cars and other obstacles
- takes corrective action rather than a warning action only

Disadvantages

- computer-related so can fail
- drivers no longer have full control
- may be confused by snow, rain, headlights, etc.
- could be very expensive

Score Points:

2 points one key element for an advantage AND disadvantage from one of the solutions
1 point one key element for an advantage OR disadvantage from one solution
0 points other